Associations between Social Determinants of Health and Frequency of Poor Mental Health Days: A cross-sectional analysis of 2017 BRFSS

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BACKGROUND

- In 2020, there were an estimated 52.9 million adults in the US diagnosed with mental illness.[1]
- Frequency of poor mental health days (FPMHD) has shown to be related to individual factors such as SES, race, and rural versus urban environments.[2,3]
- Social determinants of health (SDOH) have been found to directly influence factors related to premature death.[4]
- Assessing the disparities in mental health outcomes regionally and among sociodemographic variables may highlight predictors of mental health outcomes

OBJECTIVE

- Our study objective was to examine the relationship between frequent (14+) poor mental health days and SDOH, and which states had the highest rates of FPMHD.

METHODS

- We conducted a cross-sectional analysis of the 2017 BRFSS to extract data regarding poor mental health days and the SDOH module.
- We extracted sociodemographic variables to use as controls and constructed bivariate and multivariable logistic regression models to determine associations, via odds ratios, between SDOH and FPMHD
- We visualized overall state-levels of FPMHD via a heatmap.

RESULTS

- We found statistically significant associations between all SDOH variables and FPMHD in both the binary and multivariable regression models (Table 1).
- The average number of poor mental health days per month was the highest in West Virginia (14.11 days; Figure 1a), Oklahoma (12.94 days), and Mississippi (12.87 days).
- However, individuals in states that reported experiencing zero poor mental health days were the lowest in Oregon (58.7%; Figure 1b), Utah (59.65%), and Arkansas (59.84%).

Table 1. Association of having FPMHD based whether individuals experienced SDOH.

SDOH Variable	OR	AOR[A]
Neighborhood unsafe	3.46 (3.2-3.74)	1.66 (1.37-2.02)
Food runs out	4.87 (4.64-5.11)	2.41 (2.13-2.73)
Not Afford Balanced meals	4.95 (4.73-5.19)	2.52 (2.24-2.83)
Not enough money	5.59 (5.29-5.91)	2.76 (2.4-3.18)
Stress	17.23 (16.39-18.11)	12.06 (10.72-13.56)
Unstable housing	2.77 (2.54-3.03)	1.54 (1.23-1.92)
Could not afford bills	5.51 (5.22-5.82)	2.83 (2.46-3.26)

*Referent groups are those not experiencing SDOH. A. Adjusted models controlled for age, race/ethnicity, SES (education, income), insurance status, and sex.

Average Poor Mental Health Days by State among those reporting one or more.
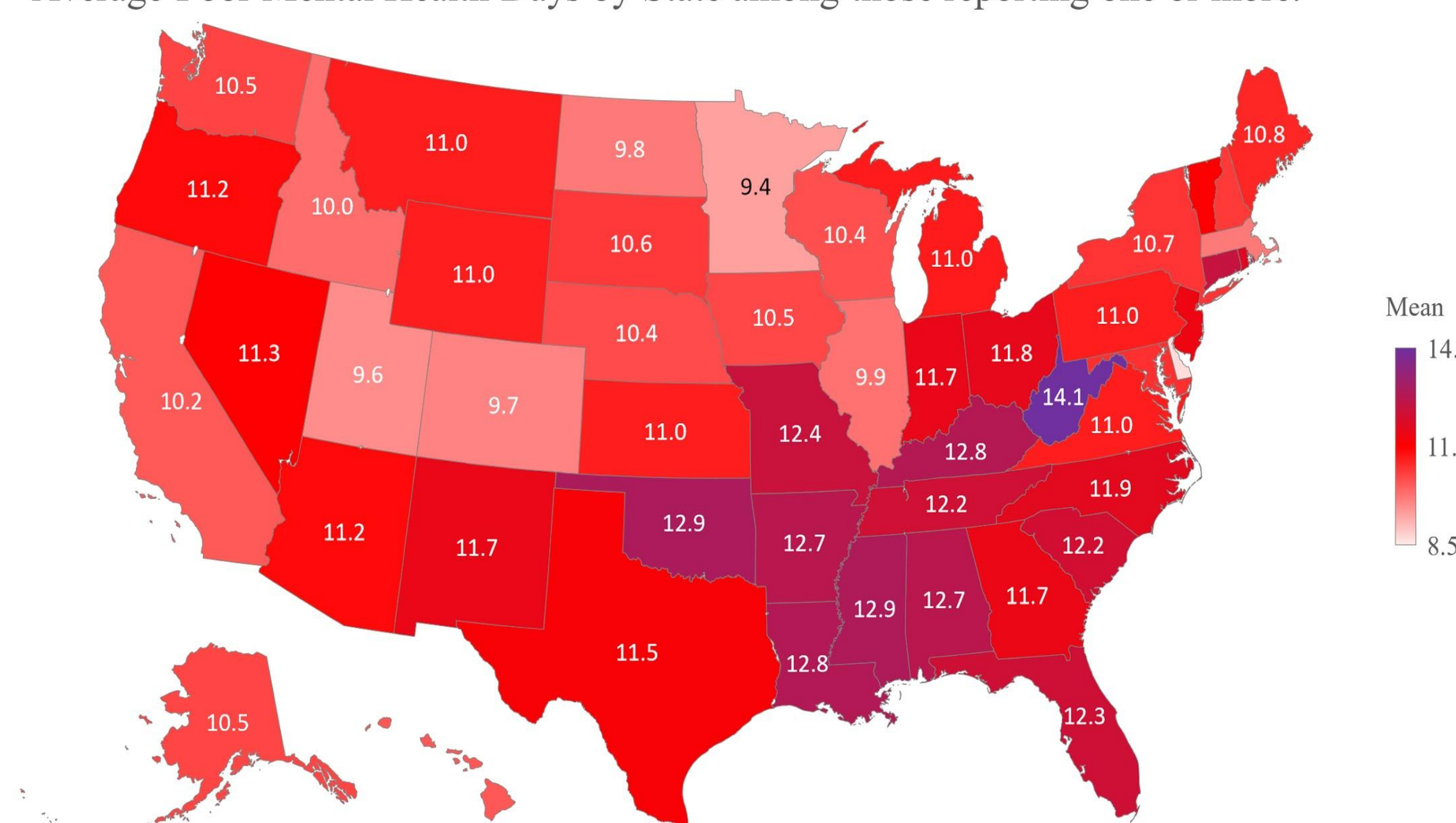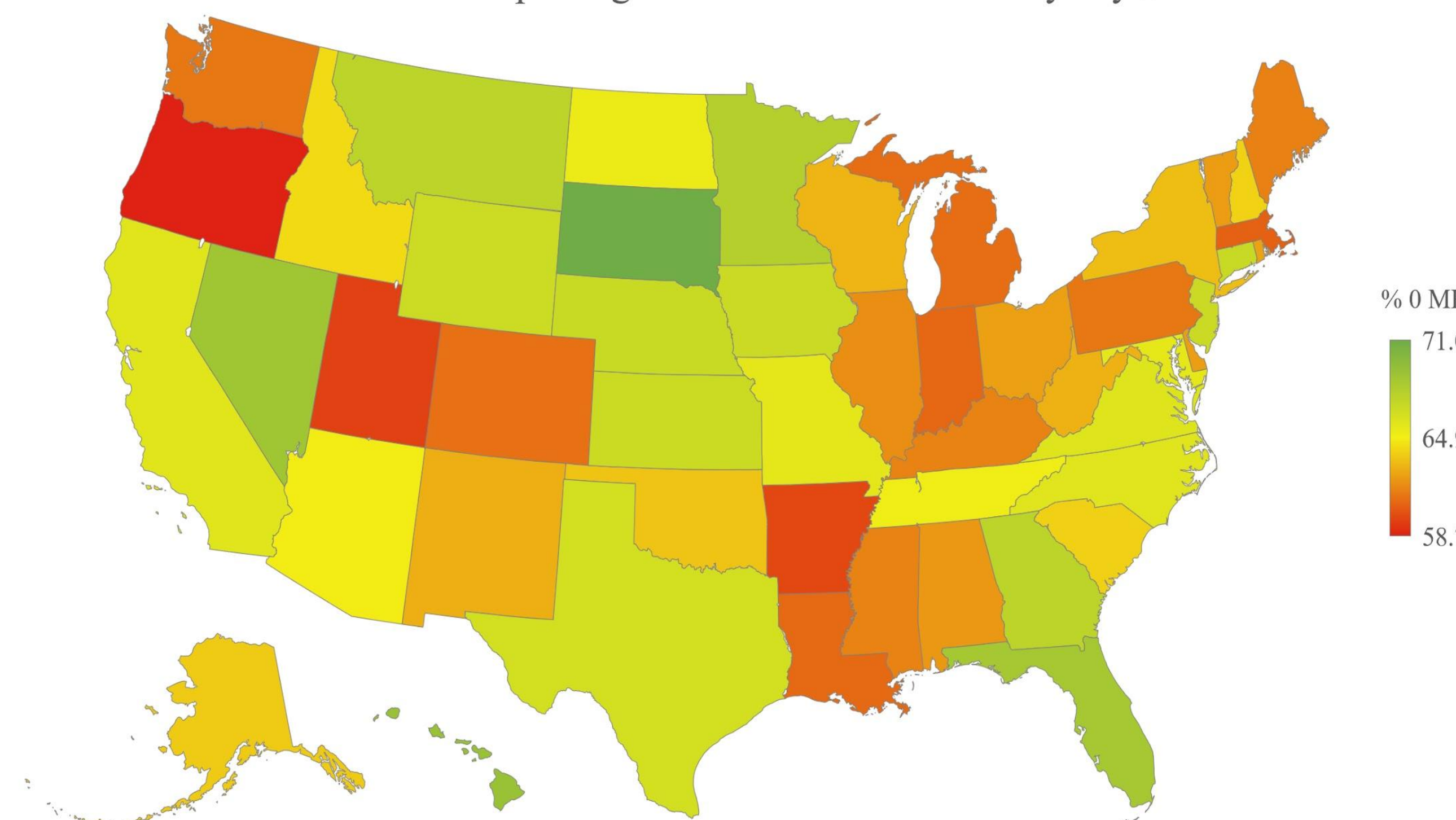Figure 1a. Average Poor Mental health days among residents within each state.

Percent of individuals reporting 0 Poor Mental Health Days by State.
1B. Percent of state population reporting no poor mental health days.

CONCLUSION

- Our study found that frequency of poor mental health days was significantly associated with all domains of SDOH. Providing expanded mental health care resources through the use of evidence-based programs could improve average numbers of poor mental health days among US adults.
- Additionally, further investigation to identify the specific variables of each SDOH domain and their association with FPMHD is warranted to improve the efficacy and reach of available mental health resources.

SIGNIFICANCE OF FINDINGS

- Mental health challenges continue to exist across the US with state-differences in average number of poor mental health days.
- The adverse health outcomes associated with poor mental health call for efforts to improve access to mental healthcare resources.
- Utilizing school, workplace and faith based mental health resources could improve access to mental health care delivery and reduce FPMHD.

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